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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/683,165	11/28/2001	Edward Robert Laliberte	GEN-0318	5964
23413	7590	12/05/2003	EXAMINER	
CANTOR COLBURN, LLP 55 GRIFFIN ROAD SOUTH BLOOMFIELD, CT 06002			LEFLORE, LAUREL E	
			ART UNIT	PAPER NUMBER
			2673	

DATE MAILED: 12/05/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/683,165

Applicant(s)

LALIBERTE ET AL.

Examiner

Laurel E LeFlore

Art Unit

2673

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) 19 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 February 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4. 6) ☐ Other: .

DETAILED ACTION

1. Applicant's election with traverse of claims 1-18 and 20-21 in Paper No. 6 is acknowledged. The traversal is on the ground(s) that claim 19 shares elements in common with the elected group of claims 1-18 and 20-21. This is not found persuasive because the restriction states that claim 19 is a subcombination of the combination claim 1-18 and 20-21, and a subcombination will have elements in common with a combination.

The requirement is still deemed proper and is therefore made FINAL.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-6, 8, 10-18 and 22 are rejected under 35 U.S.C. 102(b) as being anticipated by Nishikawa et al. 5,907,375.

In regard to claim 1, Nishikawa et al. discloses a resistive touch membrane (see figure 1, element 1) for an operator interface. See column 9, lines 18-28, in which Nishikawa discloses the resistive nature of his input-output unit (operator interface). Column 9, lines 29-41, referring to figure 1, disclose that "a part of the liquid crystal display screen 2 is directly pressed." Thus, Nishikawa's membrane comprises touch regions for a display window of the operator interface (See figure 1, element 5.) Nishikawa further discloses a "ten-

key numerical pad” of depressible keys (See column 9, lines 45-49 and figure 1, element 4). Thus Nishikawa’s invention discloses a membrane keypad comprising depressible keys. Nishikawa further discloses in column 9, lines 20-22, and referring to figure 1, a connector system of electrical connectors extending from the touch membrane, “The input switches 7 are formed by matrix-wiring of key electrodes made of steel on the membrane board 6.” By “matrix-wiring”, it is understood that the key electrodes are formed in a pattern of rows and columns intersecting each other. Thus, a pair of electrical connectors, a row and a column, are associated with each input switch 7. See column 9, lines 45-49, an in reference to figure 1, disclosing, “the input switches electrically conducting when the ten-key numerical pad 4 is pressed and...when the virtual operation buttons [of the touch panel] are pressed”. In this way, each touch region and key is associated with a pair of electrical connectors within the connector system. In figure 1, touch screen 5 is next to the key pad 4 as they sit on the membrane 6. Therefore, it is understood that each key would share one electrical connector in common with one of the touch regions, namely the electrical connectors running in a row direction in the “matrix-wiring” would be in common.

4. In regard to claim 12, see rejection of claim 1. Also see column 8, lines 57-58, disclosing that the invention is applied to a control panel of a copier. Thus, a housing (the copier) is disclosed.

5. In regard to claims 2 and 13, again referring to figure one, Nishikawa depicts touch screen 5 is next to the keypad 4 as they sit on the membrane 6.
Therefore, it is understood that each key would be associated with one electrical connector that is not in common with any of the touch regions, namely the electrical connectors running in a vertical direction in the "matrix-wiring" would not be in common.
6. In regard to claims 3, 14 and 22, see rejections of claims 1 and 2.
7. In regard to claims 4 and 15, see rejections of claims 1, 2 and 12. As depicted in figure 1 of Nishikawa, the keys 4 sit next to the touch region 5 on top of the common touch membrane 1. Thus, they share the dimension C of row connections, the touch region has A column connections, the keys have B column connections, and $A+B=D$.
8. In regard to claims 5 and 16, Nishikawa discloses a first and second receptacle, each containing a subset of the electrical connectors. See figure 2, elements 15, depicting the two receptacles. Also see column 9, lines 2-9, disclosing that the driver IC for the electrode layer is bonded, forming a TCP (tape carrier package) 15." Such a TCP is thus a receptacle for electrical connectors.
9. In regard to claims 8 and 18, see rejection of claim 1. It is understood that "electrically conducting" constitutes an electrical connection.
10. In regard to claim 10, see rejection of claim 1 and column 9, line 29, disclosing that the display screen 2 is a liquid crystal display (LCD).

11. In regard to claim 11, see rejection of claims 1 and 2. As each key and touch region is associated with a common row and a distinct column, the pair of electrical connectors (row and column) is distinct from that of any other touch region or key.

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. Claims 6 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishikawa et al. 5,907,375.

In regard to claims 6 and 17, Nishikawa et al. discloses an invention that is similar to that which is claimed in claims 6 and 17. See rejection of claims 1 and 5 for similarities. Nishikawa et al. does not disclose the association of the touch region and the keys with either specifically the first or second receptacle, as in the claimed invention.

Nishikawa et al. discloses in column 9, lines 61-63, "The layout of the switches is not limited to a matrix and may be any layout and the number thereof may be one or more." See column 9, lines 2-9 and 18-22, and figures 1 and 2, disclosing the association of the receptacles or TCP's (element 15) with the electrical connectors or matrix of switches (electrodes).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to associate the touch region with one electrical connector from each of the first and second receptacles and associated each key with a pair of electrical connectors from the first receptacle. One would have been motivated to make such a configuration based on the teaching of Nishikawa that such connectors could have any layout. Further, associating each touch region and key with either specifically the first or second receptacle is a matter of design choice, and one can shift location of parts without changing the scope of an invention (*In re Japikse*, 86 USPQ 70 (CCPA 1950)).

14. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nishikawa et al. 5,907,375 in view of McRight et al. 5,581,251.

In regard to claim 9, Nishikawa discloses an invention that is similar to that which is claimed in claim 9. See rejection of claim 1 for similarities. Nishikawa does not disclose that the 10 keys disclosed in his input-output unit are dome keys comprising function keys, navigation keys, and editing keys.

In column 1, lines 17-25, McRight et al. discloses, "Function keys, are standard parts for many types of electronic equipment. Typically, the function keys are plastic parts used to push down on a dome in a rubberized keypad which covers the printed circuit board...making a connection between two contact points".

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have the keypad of Nishikawa include dome keys

comprising function keys, such functions including navigation and editing, as is common in keypads. One would have been motivated to make such a change based on the teaching of McRight that function keys are "standard parts" and are "typically" dome keys. Thus, such a modification would be consistent with conventional keypads.

15. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nishikawa 5,907,375 in view of Dugas 5,612,692.

In regard to claim 7, Nishikawa discloses an invention similar to that which is disclosed in claim 7. See rejections of claim 1 and 5 for similarities. Nishikawa does not disclose that the resistive touch membrane comprises LED's.

Dugas et al. discloses an invention in which function keys are associated with LED's. (See column 5, lines 24-25 and figure 7, element 46.) Dugas further discloses in column 1, lines 31-37, that such LED's are commonly provided as "status indicator lights...positioned adjacent to their associated keys."

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Nishikawa in view of Dugas by including LED's. One would have been motivated to make such a change in order to provide status indicator lights for the function keys and also because an addition of such lights is conventional.

Regarding the association of such LED's with the second receptacle, as in the claimed invention, this is a matter of design choice, and one can shift location

of parts without changing the scope of an invention (In re Japikse, 86 USPQ 70 (CCPA 1950)).

16. Claims 20 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishikawa et al. 5,907,375 in view of Cumens et al. 5,570,632.

In regard to claim 20 and 21, Nishikawa discloses an invention that is similar to that which is claimed in claim 20. See 102 rejections of claims 1 and 12 for similarities. Nishikawa does not disclose that the operator interface is to communicate with a programmable logic controller of an industrial management system.

Cumens' invention is an "apparatus and method for applying and verifying marks on the periphery of generally cylindrically-shaped objects". Thus, Cumens' invention is an industrial management system. Cumens discloses in column 11, lines 1-4, and in reference to figure 9, "a block diagram of the controller 120 is shown. The controller 120 is a programmable logic controller." In lines 14-15, Cumens further discloses, "The controller 120 can be programmed by an operator interface 122", and in lines 19-20, "the operator interface 122 is a touch screen of the type which is well known to those of ordinary skill in the art", and in lines 23-25, "it is similarly understood that the controller can receive additional input/output signals." It is understood that the connector system of the touch screen is connected to the programmable logic controller, since the programmable logic controller can be programmed by the touch screen.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Nishikawa by using it as the operator interface for an industrial management system with a programmable logic controller. One would have been motivated to make such a change based on the teaching of Cumens to use an operator interface, such as a "touch screen of the type which is well known to those of ordinary skill in the art" or "additional input/output signals", with a programmable logic controller in an industrial management system.

Conclusion

17. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Salmon US2003/0048256 A1 discloses a touch membrane that includes a touch screen, keypad and fingerprinting section.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Laurel E LeFlore whose telephone number is (703) 305-8627. The examiner can normally be reached on Monday-Friday 8-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Mancuso can be reached on (703) 305-3885. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Art Unit: 2673

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

LEL



JOSEPH MANCUSI
PRIMARY EXAMINER